

REMARKS

Claims 1-2 and 5-22 are pending in this application. Claim 1 is the only independent claim.

Applicants acknowledge with thanks the indication in the Office Action that claims 21-22 are allowed, and that claims 5-8, 14, and 16-18 are also considered allowable except that they depend on rejected claims.

However, in the Office Action dated May 30, 2008, claims 1-2, 9-13, 15, and 19-20 are rejected under 35 U.S.C. 102(b) as anticipated by, or in the alternative, under 35 U.S.C. 103(a) as obvious over, US4572114 to Sickler et al. ("Sickler").

In the Advisory Action dated September 19, 2008, it is alleged that Sickler includes ignition during the double-compression operation mode, and reference is made to the statement in the introduction of Sickler that in the compression mode, "the engine continues to operate in the standard four-stroke cycle mode" (Sickler at col. 2, lines 23-27), as well as to the statement in the description of a particular embodiment that "little or no fuel is injected into the engine cylinder" (Sickler at col. 4, lines 15-17).

Applicants again urge reconsideration of the interpretation of Sickler set forth in the Office Action dated May 30, 2008 and in the Advisory Action dated September 19, 2008. Both the prior art discussed in the introduction of Sickler and the system of Sickler correspond to "compression" modes of operation. Namely, in the introduction of Sickler, the "standard four-stroke cycle mode" which Sickler discusses is an explanation of the fact that, in the compression mode of the prior art, there is only one compression phase during the cycle, whereas in the system of Sickler, there are

two compression phases. Accordingly, no reasonable interpretation of Sickler can include ignition in the “double-compression” system of Sickler.

Further to the explanations in the Response filed September 2, 2008, which are incorporated herein, a Declaration under 37 C.F.R. 1.132 by Mr. Fabien Lanteires, the named inventor in the present application, is submitted with this paper. In the Declaration, Mr. Lanteires explains how the technical disclosure of US4572114 to Sickler et al. (“Sickler”) is understood by a person of the art.

As explained in the attached Declaration, it would be contradictory to provide ignition during a compression step of Sickler, because this would negate the purpose of the double compression mode of Sickler.

Specifically, as pointed out in the Declaration, Sickler at col. 2, lines 46-50 explains that its system provides a “retarding horsepower” of nearly twice that of an conventional engine, which would not be possible if there were ignition during the second compression phase in the cycle of Sickler, because this would reduce the effect of the first compression phase (see Declaration at page 2).

Also, as explained in the Declaration, no reasonable interpretation of Sickler could include an ignition during the compression mode of Sickler, when “little or no fuel” (Sickler at col. 4, lines 16-17) is injected, because a person of the art could not imagine a circumstance where ignition would not power the engine to result in negating the double compression effect of Sickler (see Declaration at page 2).

The Declaration goes on to point out that the fact that Sickler itself makes no mention of

any ignition is completely logical for the person of the art since the absence of ignition is “a natural requirement,” whereas the occurrence of ignition during the compression mode “would be difficult to understand without an explanation by Sickler” (Declaration at page 2).

The Declarant concludes that “as a person of the art, it is very clear to me that there is no combustion in the double-compression mode of Sickler, because technically speaking, combustion would be in complete contradiction with the purpose stated by Sickler of improving the compressor effect” (Declaration at page 3).

In summary, the Declaration is submitted as additional evidence which confirms and illustrates that Sickler describes an engine operating mode in which injection is totally or nearly totally shut off when the engine is used as an air compressor, so that the person of ordinary skill in the art would immediately understand that there is no combustion. Accordingly, Sickler fails to teach or suggest the method of the present invention which includes “a combustion phase for the air/fuel mixture contained in the chamber,” as recited in present claim 1.

In contrast, in the presently claimed invention, valve timing and injection and combustion phase are timed with a view at making it possible to reduce or avoid a knocking phenomenon, and in particular, the exhaust closing time (FE) is between the first intake opening time (OA1) and the second intake opening time (OA2), and the first intake closing time (FA1) precedes the second intake opening time (OA2), as recited in present claim 1. The features of the presently claimed invention and its advantages are not taught or suggested in Sickler. Therefore, the present claims are not obvious over Sickler.

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In addition, with respect to the dependent claims, it is submitted that the cited reference fails to teach or suggest the combined features of these respective claims. Therefore, each of these respective claims is not obvious over Sickler.

In view of the above, it is submitted that the rejection should be withdrawn.

In conclusion, the invention as presently claimed is patentable. It is believed that the claims are in allowable condition and a notice to that effect is earnestly requested.

In the event there is, in the Examiner's opinion, any outstanding issue and such issue may be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of the response period. Please charge the fee for such extension and any other fees which may be required to our Deposit Account No. 502759.

Respectfully submitted,

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